

BIBLIOGRAPHY

C. FITZHUGH TALMAN, Meteorologist in Charge of Library

RECENT ADDITIONS

The following have been selected from among the titles of books recently received as representing those most likely to be useful to Weather Bureau officials in their meteorological work and studies:

Bouasse, H.

Houle, rides, seiches et marées. Paris. 1924. xxii, 516 p. figs. 24½ cm.

Cannon, William A.

General and physiological features of the vegetation of the more arid portions of southern Africa, with notes on the climatic environment. Washington. 1924. viii, 159 p. figs. plates. 25½ cm. [Publication no. 354.]

Crestani, Giuseppe.

Brevi notizie sul clima di Venezia. Venezia. 1923. 34 p. illus. plates. 26 cm. (R. Magistrato alle acque. Uff. idrog. pubb. n. 121.)

Ricerche sul fohn nel versante meridionale delle Alpi. Venezia. 1923. 52 p. figs. plates (fold.) 26 cm. (R. Magistrato alle acque. Uff. idrog. pubb. n. 120.)

Danilow, Leonid.

Das Klima von Podolien. Winnitza. 1924. vii, 46 p. 26 cm. (Nationalbibliothek der Ukraina an der Ukrainischen Akad. der Wissensch. Bureau zur Erforschung Podoliens. Lief. 1.) [Text in Russian. Résumé in German.]

Dorno, C.

Die physikalischen Grundlagen der Sonnen- und Himmelsstrahlung und ihre Anwendung in der Therapie. p. 721-748. illus. 24½ cm. (Strahlentherapie. Bd. 18, 1924.)

France. Office national météorologique.

Radiogrammes météorologiques de l'hémisphère boréal émis par les postes de T. S. F. Européens. (France non comprise.) A jour au 1er juillet 1924. Paris n. d. 244 p. 24 cm.

Gasthuys, P.

Le climat de diverses régions agricoles du Congo Belge. [Bruxelles. 1924] p. 376-385. 24½ cm. [Bull. agric. du Congo Belge. Bruxelles. v. 15, no. 2, juin, 1924.]

Georgii, Walter.

Wettervorhersage. Die Fortschritte der synoptischen Meteorologie. Dresden. 1924. viii, 114 p. figs. 22 cm. Naturwissenschaftliche Reihe. Bd. 11.)

Glasspoole, John.

Fluctuations of annual rainfall: three driest consecutive years. Westminister. n. d. 19 p. illus. plates (fold.) 22 cm.

Granqvist, Gunnar.

Isarna vintern 1920-21. Helsingfors. 1924. 78 p. figs. plates. 25 cm. (Referat: Das Meereis im Winter 1920-21.) Havsforskningsinstitutets skrift n:o 22.)

Ström- och vindobservationer vid fyrskuppen År 1922. Helsingfors. 1923. 39 p. 24½ cm. (Referat: Ström- und Windbeobachtungen an den Leuchtschiffen im Jahre 1922.) (Havsforskningsinstitutets skrift n:o 24.)

[Great Britain.] Meteorological office.

Priced vocabulary of meteorological stores. September 1924. n. p. n. d. 9 p. 25 cm.

Italy. Ufficio idrografico.

Norme ed istruzioni per il servizio pluvio-nivometrico. Venezia. 1923. 48 p. illus. 26 cm. (Pubblicazione n. 40.)

Kuznetsov, V. V.

Atlas oblakov. [Atlas of clouds.] Petrograd. 1917. 18 p. plates. 13 cm. (Nicholas Central physical observatory.)

Mullett, Mary B.

The snowflake man . . . p. 28-31, 173-175. illus. 29 cm. [Exc.: Amer. mag. v. 99, Feb., 1925.]

Piva, Vittorio.

L'Osservatorio meteorologico e geodinamico del seminario di Venezia. Memorie storiche. Venezia. 1924. xii, 179 p. illus. ports. plates (fold.) 24½ cm.

Poisson, Charles.

L'observatoire de Tananarive. Paris. n. d. 76 p. plates. 29½ cm.

Thomas, Lewis F.

Climate of Saint Louis, Missouri. 29 p. illus. 27½ cm. (Repr.: Wash. univ. studies. v. 12, scienc. ser., no. 1, 1924.)

U. S. Agriculture dept. Forest service.

Madison conference. Proceedings of the Forest experiment station conference, forest products laboratory. Madison, Wisconsin, March 10-22, 1924. [Washington.] n. d. 307 p. 26½ cm. [Part 1. Forest fire investigations, p. 12-106. Contains numerous papers on meteorological relations of forest fires.] [Manifolded.]

Weickmann, L.

Wellen im Luftmeer. Neuere Untersuchungen über Gesetzmäßigkeiten im Gange und in der Verteilung des Luftdruckes. Leipzig. 1924. 46 p. illus. plates. 28½ cm. (Abhandl. der Math.-phys. Klasse der Sächs. Akad. der Wissensch. Bd. 39, No. 2.)

Winters, S. R.

"Fair and warmer." How information about the weather decides, disputes and shapes plans. p. 14-16. illus. 28 cm. [Exc.: Business. Detroit, Feb., 1925.]

RECENT PAPERS BEARING ON METEOROLOGY

The following titles have been selected from the contents of the periodicals and serials recently received in the library of the Weather Bureau. The titles selected are of papers and other communications bearing on meteorology and cognate branches of science. This is not a complete index of all the journals from which it has been compiled. It shows only the articles that appear to the compiler likely to be of particular interest in connection with the work of the Weather Bureau.

Bell telephone quarterly. New York. v. 4. January, 1925.

Barrett, R. T. Mobilizing for the fight against sleet. p. 22-36.

Engineering news-record. New York. v. 94. January 29, 1925.

Church, J. E., Jr., & Jones, E. H. Precipitation and runoff at the Continental Divide. A discussion of the apparent disparity in precipitation and runoff, with an analysis of the data in the light of snow surveying. p. 190-195. [With a discussion by H. P. Boardman.]

France. Académie des sciences. Comptes rendus. Paris. t. 180. 5 janvier 1925.

Mariolopoulos, E. G. Sur des pluies observées parfois avec les anticyclones. p. 82-83.

Franklin institute. Journal. Philadelphia. v. 199. February, 1925.

Peek, F. W., Jr. Lightning. p. 141-182.

Great Britain. Meteorological office. British rainfall, 1923. London.

Glasspoole, John. Fluctuations of annual rainfall; a comparison of 35-year rainfall averages over the British Isles for different groups of 35 years falling in the period 1868 to 1921. p. 238-256.

Nature. London. v. 115. 1925.

Cloud forms. p. 30-31. (Jan. 3.) [Review of U. S. Weather Bureau's cloud chart.]

McLennan, J. C. On the luminescence of solid nitrogen and argon. p. 46-47. (Jan. 10.)

Nature magazine. Washington, D. C. v. 4. December, 1924.

Talman, Charles Fitzhugh. Winter's robes of white. p. 341-345.

Nature magazine. Washington, D. C. v. 5. 1925.

Talman, Charles Fitzhugh. The wonderworld of ice. p. 15-20. (Jan.).

Talman, Charles Fitzhugh. Explorations in cloudland. p. 95-99; 133. (Feb.).

North American almanac. Chicago. 1925.

Pinnacled snowfields. p. 65-66.

Physical review. Corning, N. Y. v. 25. January, 1925.

Loeb, Leonard B. A question as to the value of some evidence adduced by Nolan to prove the existence of groups of normal ions in air at atmospheric pressure. p. 101.

Physikalische Zeitschrift. Leipzig. 25. Jahrgang, no. 15. 1924.

Gockel, A. Bemerkungen zum täglichen und jährlichen Gang des Potentialgefälles und des luftelektrischen Vertikalstromes. p. 381-390.

Tichanowsky, J. J. Der Polychroismus der Himmelspolarisation. p. 390-391.

Revue d'optique théorique et instrumentale. Paris. 3 année. Novembre 1924.

Gorczyński, Ladislas. Sur un instrument thermo-électrique simple pour enregistrer l'intensité du rayonnement solaire. p. 473-487.

Revue générale des sciences. Paris. 35. année. 15 novembre 1924.

Mascart, Jean. Le climat primaire de la terre. p. 594-596.

Terrestrial magnetism and atmospheric electricity. Baltimore. v. 29. December, 1924.

Mauchly, S. J. The radium-emanation content of sea air from observations aboard the *Carnegie*, 1915-1921. p. 187-194.

Tycos-Rochester. Rochester, N. Y. v. 15. January, 1925.

A famous typhoon outlook in the Philippines. p. 31-32.

Flora, S. D. Taming the thunderbolt. p. 18-19.

Houk, Ivan E. When the thunderstorm approaches. p. 23-24.

McLoud, Norman C. Who says the weather man is always wrong? p. 12-15. [Repr. Pop. Sci. Mo.]

Olson, D. S. Snowslides. Some facts about their menace and their prevention. p. 5-7. [Repr. Sci. Amer.]

Talman, Charles Fitzhugh. Choosing a weather vane. p. 8-11.

Van Cleef, Eugene. Coming to blows with nature. p. 16-17.

U. S. Hydrographic office. Pilot chart of the North Atlantic ocean. Washington, D. C. March, 1925.

Smith, Edward H. The ice drift in the North Atlantic.

SOLAR OBSERVATIONS

SOLAR AND SKY RADIATION MEASUREMENTS

By HERBERT H. KIMBALL, In Charge, Solar Radiation Investigations

INSTRUMENTS AND EXPOSURES

In the MONTHLY WEATHER REVIEW for January, 1924, 52.42, will be found references to descriptions of instruments and exposures, and an account of the method of obtaining and reducing the measurements. To the statement then made it should be added that thermoelectric recording pyrheliometer No. 8 was installed at the New York Meteorological Observatory, Central Park, New York City, on April 16, 1924. The receiver is placed on the parapet of the tower of the observatory, south of the wind vane and other instrumental supports, so that it is freely exposed to the sun from sunrise to sunset. The wind vane and support cut off a small fraction of the radiation from the northern sky, however.

The elevation of the receiver above sea level is 156 feet (48 meters), the latitude is 40° 46' north, and the longitude 73° 58' west. In winter, with light winds, the atmosphere over Central Park may become filled with rather dense smoke. In summer, and especially with a brisk west or north west wind, the smoke is light.

The normals from which are obtained the departures of the mean radiation values in Table 1 include the measurements for the current month, as heretofore. Those for Table 2 include measurements to the end of 1924 only. For Madison, for January to March, inclusive, they are based upon records covering 13 years, and for the remaining months, 14 years; for Washington, from January to October, 10 years, and for the remaining two months, 11 years; for Lincoln, the records generally cover 8 years, although there have been some interruptions. At Chicago and New York the records are too short to give reliable weekly normals.

MEASUREMENTS DURING JANUARY, 1924

From Table 1 it is seen that the departures are small and irregular at all three stations. Table 2 shows a deficiency in the incoming radiation, due to unusual cloudiness. No skylight polarization measurements of value were obtained at either Washington or Madison, as the ground was mostly covered with snow at both stations throughout the month.

TABLE 1.—Solar radiation intensities during January, 1925

[Gram-calories per minute per square centimeter of normal surface]
Washington, D. C.

Date	8 a.m. 75th mer. time	Sun's zenith distance									Noon Local mean solar time
		78.7°	75.7°	70.7°	60.0°	0.0°	60.0°	70.7°	75.7°	78.7°	
		5.0	4.0	3.0	2.0	*1.0	2.0	3.0	4.0	5.0	
Jan. 5	mm.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	mm. 3.99
6	2.62	0.85	1.10	1.34	1.04	0.98	0.84	0.72	0.62	3.45	
7	2.62	0.64	0.75	0.84	1.13						3.68
13	3.63							0.98			4.37
21	2.36		1.19	1.37	1.65	1.44	1.28	1.08	0.96	2.36	
22	3.30			1.21		1.57	1.40	1.27	1.12	1.03	4.37
23	1.12										1.45
24	1.37				1.19						1.52
28	0.74	1.03	1.15	1.26	1.35	1.44	1.21	1.11	0.95	0.83	0.81
Means	2.49	0.28	0.37	0.69	1.07		1.23				2.16
Departures		0.70	0.76	1.01	1.24		1.25	1.10	0.94	0.82	

Madison, Wis.

Jan. 8	1.45	1.15	1.24								1.88
9	2.16										3.00
13	1.52	0.85	1.03								1.45
20	2.62							1.26	1.19		3.15
22	2.74				1.45						2.36
27	0.51	1.05	1.15	1.29		1.48					0.91
31	3.30				1.12						4.57
Means	(1.05)	1.05	1.19	(1.28)			(0.94)	(1.19)			
Departures	+0.09	-0.03	-0.05	-0.08			-0.28	+0.06			

Lincoln, Nebr.

Jan. 5	2.49							1.29	1.16	1.01	2.87
6	2.36		0.99	1.09				1.23	1.11	0.84	3.15
8	1.88	0.73	0.80	0.98				1.10	1.02	0.85	2.26
12	1.52							1.28	1.03	0.89	1.45
13	1.32							1.08	0.90		1.96
17	1.07		1.02	1.15							1.96
19	2.62						1.45	1.18	0.97		3.00
20	3.45						1.45	1.28	1.14	1.03	2.26
Means	(0.73)	0.94	1.07				(1.45)	1.21	1.05	0.92	
Departures	-0.18	-0.08	-0.10				+0.17	+0.02	+0.01	+0.01	

* Extrapolated.

TABLE 2.—Solar and sky radiation received on a horizontal surface
[Gram-calories per square centimeter of horizontal surface]

Week beginning	Average daily radiation					Average daily departure from normal		
	Washington	Madison	Lincoln	Chicago	New York	Washington	Madison	Lincoln
Jan. 1	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.
8	152	111	202	56	87	-1	-31	+18
15	100	141	177	79	91	-59	-11	-22
22	144	176	214	81	102	-24	+9	+4
Excess or deficiency since first of year on Jan. 28	204	183	198	91	162	+25	-3	-30
						-413	-252	-245